



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

To: Well file, MI-125-2R-0003

From: Anna Miller, UIC Branch

Re: Endangered Species Determination for Proposed UIC Well - Permit Application
MI-125-2R-0003, Lanphar 1-12, Oakland County, Michigan

Date: February 21, 2017

In accordance with 40 C.F.R. §144.4(c) EPA reviewed the threatened and endangered species lists for the area around the well site to ensure that actions authorized by the EPA are not likely to jeopardize the continued existence of any endangered or threatened, or proposed endangered species, or to adversely affect designated critical habitats.

EPA Action

EPA received an application to permit a Class II UIC well for enhanced recovery for oil and gas production. The Lanphar 1-12 well is an already constructed well which is proposed to be converted from a production well to a gas injection well for enhanced oil and gas recovery. EPA's action is to approve or deny a permit based on reviewing the existing construction and proposed operating conditions for suitability as an injection well.

Species Identification

EPA consulted a list of threatened and endangered species in the area using the U.S. Fish and Wildlife Service's (USFWS) website and selected an area around the proposed project site roughly equal to the ¼-mile area of review used for considering injection impacts.

This information showed that there are currently five species in Oakland County that are federally listed as threatened or endangered. These species include:

- Indiana bat (*Myotis sodalis*), endangered
- Northern long-eared bat (*Myotis septentrionalis*), threatened
- Powesheik skipperling (*Oarisma poweshiek*), endangered
- Rayed bean mussel (*Villosa fabalis*), endangered
- Snuffbox (*Epioblasma triquetra*), endangered
- Eastern Massasauga (*Sistrurus catenatus*), threatened

The **Indiana bat's summer** habitat includes small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. The bat uses caves and mines as hibernacula.¹

¹ USFWS factsheet, <http://www.fws.gov/midwest/endangered/mammals/inba/pdf/inbafactsht.pdf>

USFWS listed the **Northern Long-Eared Bat** as threatened in April 2015. According to USFWS, the bat roosts in underneath bark, in cavities, or crevices of both live and dead trees in the spring to summer months, and forages in upland forests during spring and summer. The bats hibernate in caves and mines, swarming in surrounding wooded areas in autumn.²

Poweshiek skipperlings are small butterflies that live in high quality tallgrass prairie in both upland, dry areas as well as low, moist areas. In Michigan they are found mainly in prairie fens, a type of wet prairie.³ The USFWS has designated four Critical Habitats for the Poweshiek skipperling in Oakland County, Michigan.⁴ (The subject well is not within any of the designated areas.)

The **Rayed bean mussel** and **Snuff box mussel** are fresh water mussels. The rayed bean generally lives in smaller, headwater creeks, but it is sometimes found in large rivers and wave-washed areas of glacial lakes. In Oakland County, Michigan, it is found in the Clinton River.⁵ The snuffbox is usually found in small- to medium-sized creeks, inhabiting areas with a swift current, although it is also found in Lake Erie and some larger rivers.⁶

The **Eastern Massasauga** is a snake that lives in wet areas including wet prairies, marshes and low areas along rivers and lakes. In many areas massasaugas also use adjacent uplands during part of the year.⁷

Evaluation

EPA's UIC regulations protect underground sources of drinking water from contamination due to underground injection practices. The construction and proposed operation of the well make it unlikely that the injection fluid will rise above the injection zone. EPA's review determined that the well's construction is sufficient to prevent contamination of the USDW by underground injection. The proposed well's geological setting also meets EPA requirements. The proposed operational standards also prevent against contamination to the USDW.

EPA consulted USFWS fact sheets on each of the above species. Each fact sheet provides information including a species' habitat in different seasons and information regarding preventing or minimizing potential impacts to that species. The ¼-mile area of review area does not include habitat for the species identified as threatened or endangered species in Oakland County. The well site is in open farm field without forest, wetlands, or creeks within the ¼-mile area of review. Vegetation along property boundaries and roads is present, but unlikely to be affected by conversion of the well to an injection well. More densely vegetated areas are outside the 1/4-mile area of review and unlikely to be affected by conversion or daily operation of the well. Insofar as the well and access routes to the well are already constructed, no new land clearing is planned. The applicant may use additional equipment temporarily in refitting the well for injection and in taking corrective action on wells within the area of review.

² USFWS factsheet, <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>

³USFWS factsheet,

<http://www.fws.gov/midwest/endangered/insects/posk/PoweshiekSkipperlingFactSheet.html>

⁴ <http://www.fws.gov/midwest/endangered/insects/posk/fCHmaps/poskchMI.pdf>

⁵ <http://www.fws.gov/midwest/endangered/clams/rayedbean/RayedBeanFactSheet.html>

⁶ <http://www.fws.gov/midwest/endangered/clams/snuffbox/SnuffboxFactSheet.html>

⁷ <https://www.fws.gov/midwest/endangered/reptiles/cama/pdf/EMRFactSheetSept2016.pdf>

Determination: No Effect

EPA determines that the action will have no effect on the threatened and endangered species listed for the area because no new construction or clearing will take place, and because habitat for the listed species is not present at the well site or within the area of review.

